

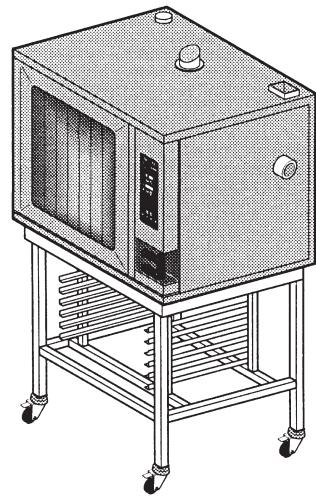
VULCAN

**INSTALLATION &
OPERATION MANUAL**

GAS COMBI OVENS

MODEL

VC10HGP	ML-52441
VC20HGP	ML-52442
VC10FGP	ML-52444
VC20FGP	ML-114799



MODEL VC10HGP

IMPORTANT FOR YOUR SAFETY

THIS MANUAL HAS BEEN PREPARED FOR PERSONNEL QUALIFIED TO INSTALL GAS EQUIPMENT, WHO SHOULD PERFORM THE INITIAL FIELD START-UP AND ADJUSTMENTS OF THE EQUIPMENT COVERED BY THIS MANUAL.

POST IN A PROMINENT LOCATION THE INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION CAN BE OBTAINED FROM THE LOCAL GAS SUPPLIER.

IMPORTANT

IN THE EVENT A GAS ODOR IS DETECTED, SHUT DOWN UNITS AT MAIN SHUTOFF VALVE AND CONTACT THE LOCAL GAS COMPANY OR GAS SUPPLIER FOR SERVICE.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

IN THE EVENT OF A POWER FAILURE, DO NOT ATTEMPT TO OPERATE THIS DEVICE.

Table of Contents

GENERAL	4
INSTALLATION	4
UNPACKING	4
LOCATION	4
LEGS	4
TABLE	4
CONDENSATE GUTTER	4
LEVELING	4
INSTALLATION CODES AND STANDARDS	5
GAS CONNECTION	5
VENT HOOD	6
WATER REQUIREMENTS	6
PLUMBING CONNECTIONS	6
WATER CONNECTION	6
DRAIN CONNECTION	7
ELECTRICAL CONNECTION	7
START UP PROCEDURE	7
BEFORE FIRST USE	8
OPERATION	8
DOOR OPENING AND CLOSING	8
GREASE FILTER	8
LOADING THE OVEN	9
UNLOADING THE OVEN	9
PROGRAMMABLE CONTROLS	10
BAKING (CONVECTION BAKING - HOT AIR)	12
CONVECTION BAKING APPLICATIONS	13
STEAMING	14
STEAMING APPLICATIONS	15
COMBI (CONVECTION BAKING WITH STEAMING)	16
COMBI APPLICATIONS	17
USING THE TEMPERATURE PROBE	18
TEMPERATURE PROBE APPLICATIONS	18
FIVE COOKING PHASES	19
PROGRAMMING MEMORY	20
EXAMPLE PROGRAM	21
RECALLING A PROGRAM FROM MEMORY	22
MENU CARD	23
COOK AND HOLD	24
COOK AND HOLD APPLICATIONS	25
CLEANING	26
DAILY CLEANING	26
COMPLETE CLEANING	26
MAINTENANCE	28
REMOVAL OF LIME SCALE DEPOSITS	28
FLUES	28
MOTORS	28
TROUBLESHOOTING	28
SERVICE	28

Installation, Operation, and Care of GAS COMBI STEAM & CONVECTION OVENS

KEEP THIS MANUAL FOR FUTURE USE

GENERAL

The Gas Combi Steam & Convection Ovens are single compartment ovens that provide steam and/or convection heating. Various models can handle **10** or **20** shelves, Full or Half depth. A Programmable control is provided on all size/depth combinations. The **bold** numbers and letters explain the model-number conventions. An atmospheric steam generator can provide humidification in the oven chamber.

The 10 level models can be installed on an optional table or on a suitable countertop using the legs, provided. Trolleys or landing tables (depending on size of oven) can load or unload all racks in one easy motion. The hose spray accessory can be installed near the oven to facilitate easy cleaning.

INSTALLATION

UNPACKING

Immediately after unpacking the oven, check for possible shipping damage. If the oven is found to be damaged, save the packaging material and contact the carrier within 15 days of delivery.

Prior to installation, verify that the electrical service and type of gas (natural or propane) agree with the specifications on the oven data plate.

LOCATION

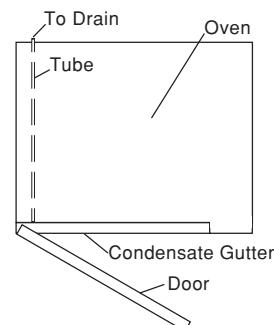
Allow space for operating the oven. Do not obstruct the ventilation ports above the oven. Do not install the oven next to a major heat source, such as a griddle or fryer. All models require a minimum clearance of 8" on the right side of the oven and 6" at the rear. The 8" clearance on the right side also provides room for the gas connection. Additionally, model VC10FGP requires an 8" clearance on the left side.

LEGS (Provided for 10 Shelf Models)

Screw feet into legs at four corners and set oven on suitable countertop.

TABLE (Optional for 10 Shelf Models)

To assemble the oven onto the caster equipped table, insert four bolts from underneath at the four corners and tighten until secure.



CONDENSATE GUTTER

Loosen screws under front of oven base and assemble condensate gutter to bottom of oven. The 20 level ovens have a three segment condensate gutter and dual input drain tube. Connect tube (if provided) to condensate gutter and drain.

NOTE: The 20 level gas ovens are equipped with casters, preassembled on the bottom of the oven.

LEVELING

The oven must be placed in a level location. Using a spirit level or pan of water in the bottom of the oven, make sure the oven is level, both front-to-back and side-to-side. After the drain is connected (page 7), check for level by pouring water onto the floor of the compartment. All water should drain through the drain opening.

INSTALLATION CODES AND STANDARDS

In the United States, install the oven in accordance with: 1) State and local codes; 2) National Fuel Gas Code, ANSI-Z223.1, latest edition, available from American Gas Association, 1515 Wilson Boulevard, Arlington, VA 22209; 3) National Electrical Code, ANSI/NFPA No. 70, latest edition; and 4) NFPA Standard #96, *Vapor Removal from Cooking Equipment*, latest edition, available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

In Canada, install the oven in accordance with: 1) Local codes; 2) CAN/CGA-B149.1, Installation for Natural Gas Burning Appliances and Equipment, latest edition; 3) CAN/CGA-B149.2, Installation for Propane Burning Appliances and Equipment, latest edition; and, 4) Canadian Electrical Code, Part 1, CSA Standard C22.1, latest edition.

GAS INPUT RATING

Model	Gas Type	Oven	Steam Generator	Total
VC10HGP	Natural	67,000 BTU/hr	40,000 BTU/hr	107,000 BTU/hr
	Propane	69,000 BTU/hr	40,000 BTU/hr	109,000 BTU/hr
VC10FGP	Natural	85,000 BTU/hr	45,000 BTU/hr	130,000 BTU/hr
	Propane	85,000 BTU/hr	45,000 BTU/hr	130,000 BTU/hr
VC20HGP	Natural	70,000 BTU/hr	58,000 BTU/hr	128,000 BTU/hr
	Propane	70,000 BTU/hr	58,000 BTU/hr	128,000 BTU/hr
VC20FGP	Natural	150,000 BTU/hr	115,000 BTU/hr	265,000 BTU/hr
	Propane	150,000 BTU/hr	115,000 BTU/hr	265,000 BTU/hr

GAS CONNECTION

All gas supply connections and any pipe joint compound must be resistant to the action of propane gases. The machine connection is $\frac{3}{4}$ " external thread. A manual valve (supplied) must be installed in the gas supply line ahead of the appliance. Make sure piping is clean and free of obstructions, dirt, or pipe joint compound. Recommended gas supply pressures are 7" W.C. (Water Column) for natural gas and 11" W.C. for propane. The gas line must be capable of delivering gas to the oven without excessive pressure drop at the rate specified on the rating plate.

The oven is equipped with a factory preset pressure regulator. Natural gas pressure regulators are preset for 3.5" W.C. for both ovens and steam generators. Propane gas pressure regulators for 10 level half and full and 20 level full ovens are preset for 10" W.C. for both ovens and steam generators. Propane gas pressure regulators for 20 level half depth ovens are preset for 8" W.C. for oven burners and 10" W.C. for steam generators.

Caster equipped ovens must be installed with a connector that complies with the *Standard for Connectors for Movable Gas Appliances*, ANSI-Z21.69 (latest edition) [in Canada, CAN/CGA-6.16, latest edition], and a quick-disconnect device that complies with the *Standard for Quick-Disconnect Devices for Use with Gas Fuel*, ANSI-Z21.41 (latest edition) [in Canada, CAN 1-6.9, latest edition]. A gas line strain relief must be provided to limit the movement of the oven without depending on the connector and the quick-disconnect device or its associated piping to limit oven movement. Attach the strain relief to the rear of the oven at the location provided. If it is necessary to disconnect the restraint during service or maintenance, first turn off the gas supply. Reconnect the restraint before returning the oven to its original installed location and turning the gas supply on.

WARNING: PRIOR TO LIGHTING, CHECK ALL JOINTS IN THE GAS SUPPLY LINE FOR LEAKS. USE SOAP AND WATER SOLUTION. DO NOT USE AN OPEN FLAME.

The convection burner and the steam generator burner are ignited automatically by electric igniters; there are no pilot lights. See Start Up Procedure, page 7.

Keep the appliance area free and clear from all combustible substances. Do not obstruct the flow of combustion and ventilation air. Make sure there is an adequate supply of air in the room to allow for combustion at the burners and exhaust by the vent hood system.

Testing the Gas Supply Piping System

When test pressures exceed $\frac{1}{2}$ psig (3.45 kPa), the oven and its individual shutoff valve must be disconnected from the gas supply piping system.

When test pressures are $\frac{1}{2}$ psig (3.45 kPa) or less, the oven must be isolated from the gas supply piping system by closing its individual shutoff valve.

VENT HOOD

The Combi oven should be located under a suitable exhaust hood to vent steam, smoke, grease laden vapors, etc. Information on the construction and installation of ventilating hoods may be obtained from *Vapor Removal from Cooking Equipment*, NFPA standard No. 96 (latest edition).

WATER REQUIREMENTS

Proper water quality can improve the taste of the food prepared in the oven, reduce liming in the steam generator, and extend equipment life. Local water conditions vary from one location to another. The recommended proper water treatment for effective and efficient use of this equipment will also vary depending on the local water conditions. Ask your municipal water supplier for details about your local water supply prior to installation.

Recommended water hardness is 2.0 to 4.0 grains of hardness per gallon with pH from 7.0 to 8.0. Chlorides must not exceed 30 parts per million. Water hardness above 4.0 grains per gallon should be treated by a water conditioner (water softener or in-line water treatment). Water hardness below 2.0 grains per gallon may also require a water treatment system to reduce potential corrosion. With respect to water hardness, 17.1 parts per million is equal to 1 grain of hardness per gallon. Water treatment has been shown to reduce costs associated with machine cleaning, reduce deliming of the steam generator, and reduce corrosion of metallic surfaces in the steam generator.

Water supplies vary from one location to another. A local water treatment specialist should be consulted before installing any steam generating equipment.

The Kleensteam® system by Everpure is an available Vulcan accessory. The Kleensteam system is a passive chemical feeder that modifies the water supply by addition of a non-toxic chemical which increases the acidity of water, reducing the alkalinity. This generally allows the steam generator to run cleaner and require less frequent deliming. Kleensteam reduces the chemical taste and odor of chlorine and filters out small particulates. The cartridge needs to be replaced every six months.

Sediment, silica, excess chlorides, or other dissolved solids may lead to a recommendation for alternate form(s) of water treatment. Consult with a water treatment specialist and your Vulcan Sales office for specific recommendations.

PLUMBING CONNECTIONS

WARNING: PLUMBING CONNECTIONS MUST COMPLY WITH APPLICABLE SANITARY, SAFETY AND PLUMBING CODES.

WATER CONNECTION

Connect the potable water supply to the external-threaded nylon inlet ($\frac{3}{4}$ " NSHT - National Straight Hose Thread) located underneath the oven at the rear. Treat the nylon threads carefully so the connection does not leak. A manual shutoff valve must be provided convenient to the oven; this valve should be open when the oven is in operation. Water pressure should be between 20 and 80 psig.

Untreated water contains scale producing minerals which can precipitate onto the surfaces in the steam generator tank. Due to the temperatures in the tank, the minerals can bake onto the surfaces and components. This can result in early component failure and reduced product life.

Sensors in the steam generator tank use ions in the water to detect the water level. Do not use distilled (fully demineralized or de-ionized) water as this could provide a false reading to the sensors.

Strainers and filters will NOT remove minerals from the water.

Refer to REMOVAL OF LIME SCALE DEPOSITS, page 28.

DRAIN CONNECTION

CAUTION: In order to avoid any back pressure in the oven, do not connect solidly to any drain connection.

An adaptor collar is recommended for the machine drain connection, located underneath the oven at the rear. The drain line should be plumbed to an open gap-type drain and include a trap. Drain piping must have suitable pitch, have appropriate support along its length, and have no connection to other piping. The material used in the drain line should be heat resistant to at least 212°F. The open drain should be located between 3 and 5 feet away from the perimeter of the oven to reduce potential damage from moisture-corrosion.

ELECTRICAL CONNECTION

Cord Connected Ovens

WARNING: THE SUPPLY CORD ON THIS OVEN IS PROVIDED WITH A GROUNDING PLUG. THE OUTLET TO WHICH THIS PLUG IS CONNECTED MUST BE PROPERLY GROUNDED. IF THE RECEPTACLE IS NOT THE PROPER GROUNDING TYPE, CONTACT AN ELECTRICIAN.

The wiring diagram is located on the inside surface of the right side panel as you face the oven.

START UP PROCEDURE

The Gas Combi Ovens are equipped with a gas burner for convection heating and a gas steam generator for atmospheric steaming; two independent flues exhaust the burnt gases. Become familiar with the entire manual before continuing with this Startup Procedure. Remove the tray rack, grease filter, and fan baffle from the oven cavity. Turn gas and water on. Press the ON button.

- Select Combi Mode and adjust the steam time to 50% by pressing  four times (four indicator lights are lit).
- Leave oven temp setting at 302°F and the timer display blank, [-]h [--]min.
- Close the oven door and press the Start Button. The oven convection fan rotates counterclockwise. The oven flue vent should be open.
- After a delay of 50 seconds while the oven adjusts for Combi Mode, the sparker on the left side of the burner should ignite the Convection Burner. Observe blue flame. After an additional 70 seconds, the steam generator flame should ignite. Observe blue flame through window below controls.

If the Convection Burner does not ignite, the NO Convection Burner indicator light, , will be lit.

- Wait 30 seconds until the  light starts to flash and the buzzer sounds.
- Reset the Convection Burner by pressing the Reset Button above the  indicator light.
- This procedure may need to be repeated several times until all of the air in the pipeline is replaced by gas. The longer the pipe, the longer it will take to remove the air from the pipe.

If the Steam Generator Burner does not ignite, the NO Steam Burner indicator light, , will be lit.

- Wait 10 seconds until the  light starts to flash and the buzzer sounds.
- Reset the Steam Generator Burner by pressing the Reset Button above the  indicator light.
- This procedure may need to be repeated several times until all of the air in the pipeline is replaced by gas.

If a make-up air system is part of the vent hood, make sure there is no down-draft pushing hot combustion gases from the flues back into the oven.

Press Stop and observe that the pump drains the steam generator for about one minute. The door will open. After the oven is cool, reinstall fan baffle, grease filter, and tray rack.

BEFORE FIRST USE

Before using the oven for the first time, it must be "burned in" to release any odors that might result from heating the new surfaces in the oven. Operate the oven at 480°F for 45 minutes in Convection Mode.

OPERATION

WARNING: THE OVEN AND ITS PARTS ARE HOT. USE CARE WHEN OPERATING, CLEANING OR SERVICING THE OVEN. THE COOKING COMPARTMENT CONTAINS LIVE STEAM. STAY CLEAR WHEN OPENING DOOR.

DOOR OPENING AND CLOSING

The oven door is equipped with an electrically powered lock. The oven is delivered with the door latched and slightly open (Fig. 1) and can be opened by firmly pulling the door handle (Fig. 3). Push the door until it connects with the latch but remains slightly open (Fig. 1). This is the position the door should be in when the oven is not in use. The door should also be in this position after cooking to allow steam to escape before fully opening the door. Push the handle until it is in line with the oven door. If power has been connected, the door will now lock automatically, sealing the oven chamber (Fig. 2).

To release the door, rotate (pull) the handle 90 degrees. The door automatically releases to the 'latched and slightly opened' position. Allow a few seconds for steam to escape before pulling the door open (Fig. 3).



Fig. 1

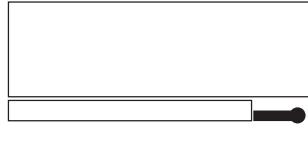


Fig. 2

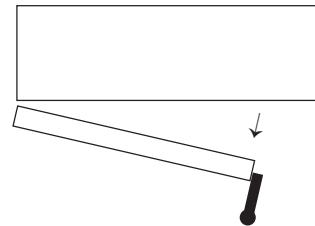


Fig. 3

NOTE: In the event of a power failure, the door may be opened by pulling the handle firmly towards you while firmly pressing against the front of the oven with the other hand.

GREASE FILTER

The grease filter in the rear of the oven chamber should be kept in place. See Cleaning, page 26, for information on how to remove the grease filter and how to reinstall it.

LOADING THE OVEN

Open the door. Place the product to be cooked in suitable containers and slide into the racks or place the containers securely on shelves in the oven.

When loading a 10 level oven with landing table (Fig. 4), the bottom frame of the rack should be secured by the rotary lock. Move the loaded landing table to the front of the open oven; secure the landing table to the oven by actuating the locking-clamp (or use your body to hold the landing table against the oven). Rotate the lock-knob to release the rack and carefully roll the loaded rack into the oven, making sure that the landing table does not separate from the oven during the transfer.

NOTE: When the landing table is not in use in the 10 level oven, make sure the insert retainer (delivered with the oven) is fitted under the fan baffle to prevent the rack from tilting when pans are being removed.

When loading a 20 level oven with the trolley (Fig. 5), make sure the handle is locked in the down position so the rack is held securely to the trolley with its lifting hooks. Carefully move the loaded trolley completely into the open oven. When the rear frame of the rack is positioned behind the edge of the retainer, raise the handle to lower the rack-frame to the oven floor.

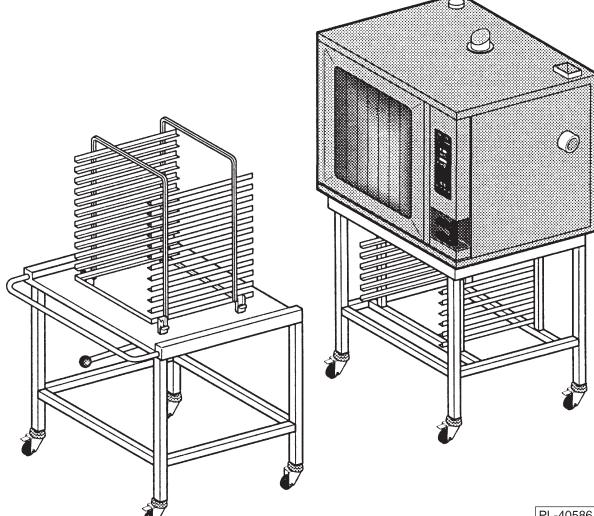


Fig. 4

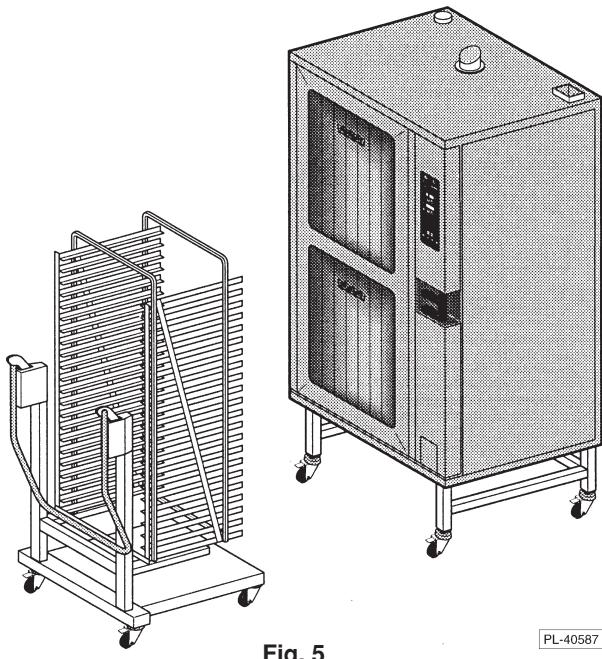


Fig. 5

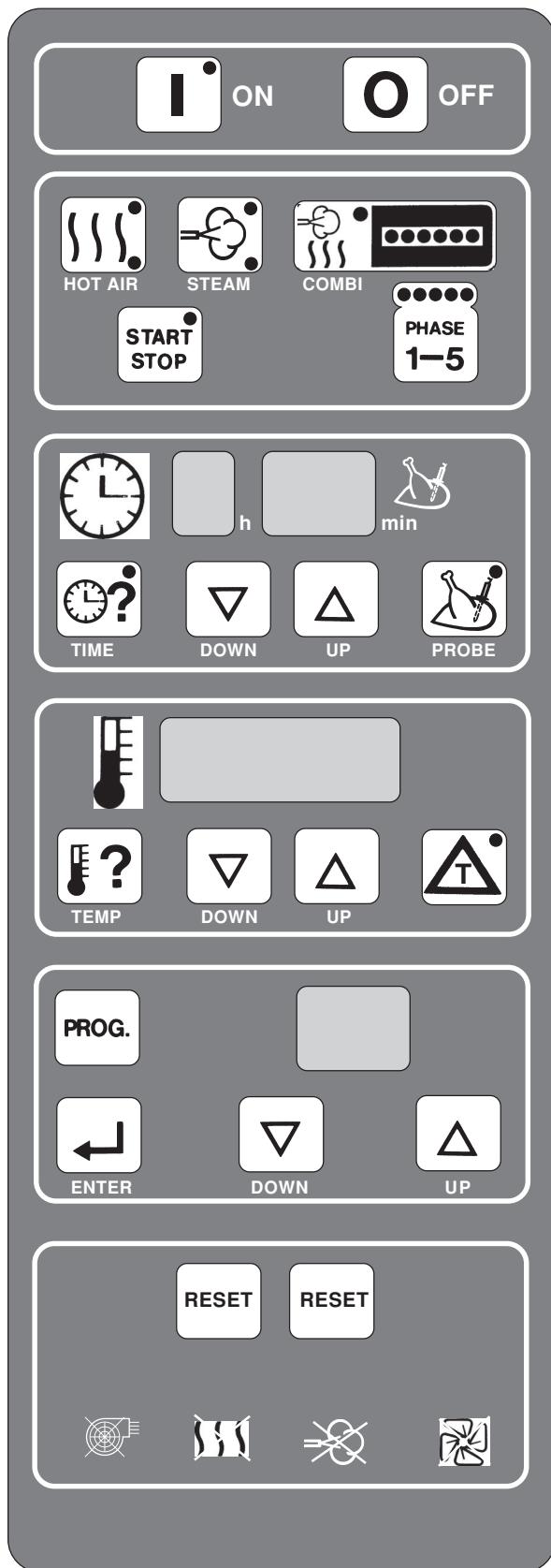
UNLOADING THE OVEN

Allow the door to be 'slightly-opened' for a few seconds to allow hot air and steam to escape. Stand behind the door while opening.

When unloading a 10 level oven, move the landing table (Fig. 4) so the clamp locks the landing table to the front of the oven (or use your body to hold the landing table against the oven). Remove the landing table handles and clamp them to the bottom of the hot oven rack. Carefully roll the hot rack onto the landing table platform, making sure that the landing table does not separate from the oven during the transfer. Rotate the knob to allow the rack to move completely to the front of the landing table; and rotate the knob back to lock the rack in place.

When unloading a 20 level oven, move the trolley (Fig. 5) into the oven until the "lift-hooks" are inserted into both sides of the front frame of the rack in the correct "lift" position. Lower the trolley handle until it stops; the loaded-rack is lifted from its retainer and held securely to the trolley by the "lift-hooks". The trolley may now be removed from the oven with the loaded rack securely held in place.

PROGRAMMABLE CONTROLS



Main Power: On / Off

Mode Selection:
Hot Air Steam Combi

Start / Stop Phase 1 – 5

Select & Set:
Cooking Time Probe Temperature

Select & Set:
Oven Temp Temperature Differential

Select Program Number

Service Needed: Air Intake Filter
 Reset: Convection Burner Ignition
 Reset: Steam Generator Burner Ignition
 Service Needed: Oven Fan

The water supply valve must be open before starting Steam or Combi operations (refer to Start Up Procedure, page 7). If there is not enough water in the steam generator, the buzzer will sound for one minute and then the two lights on the steam button and the phase lights will start flashing.

Main Power: On / Off

- ON** — Main power is on and the ON indicator light is lit. The actual oven temperature is shown in the Temperature display; – h – min is in the Time display. The control will now accept other commands.
- OFF** — Shuts off the oven at the end of the day, opens the oven vent, and drains the steam generator tank (pump requires about one minute to drain the tank).

Mode Selection: Hot Air / Steam / Combi / Start Stop / Phase 1 – 5

- HOT AIR** — Heat and Fan are ON. The initial temperature setting of 302°F displays, then the actual oven temperature displays. Use TEMP and the UP or DOWN keys to set the temperature (range is 35 – 518°F). The bottom green indicator light is lit when the convection burner is on.
- STEAM** — Steam and Fan are ON. The initial temperature setting of 212°F displays, then the actual oven temperature displays. Use TEMP and the UP or DOWN keys to set the temperature (range is 35 – 212°F). The bottom green indicator light is lit when the steam generator burner is on.
- COMBI** — Heat, Fan, and Steam are ON. Initial temperature setting of 302°F displays, then the actual oven temperature displays. Use TEMP and the UP or DOWN keys to set the temperature (range is 35 – 518°F). The amount of steaming is determined by the number of times you press the Combi key (1 – 6), indicated by the row of lights.
- START STOP** — Starts or stops the cooking operation.
- PHASE** — Indicates the Phase of a sequential cooking operation. Up to 5 phases are permitted.

Select & Set: Cooking Time or Probe Temperature / Down / Up

- DISPLAY** — Allows the Cooking Time or the Probe Temperature to be set.
- TIME** — Selects the Cooking Time, which can be increased or decreased using the Up or Down keys. If the display shows [-]h[--]min, the oven operates continuously — there is no automatic shut-off.
- DOWN** — Decreases the Cooking Time or Probe Temperature.
- UP** — Increases the Cooking Time or Probe Temperature.
- PROBE** — Selects the Probe Temperature, which can be increased or decreased using the time Up or Down keys.

Temperature Display: Oven Temp / Down / Up / Temperature Differential

- Oven Temp** — Changes the display from the Actual Oven Temperature to the Oven Temperature Setting, which can be increased or decreased using the Up or Down keys.
- DOWN** — Decreases the Oven Temperature or Temperature Differential setting.
- UP** — Increases the Oven Temperature or Temperature Differential setting.
- Temp Diff** — Used with the temperature probe to maintain the temperature differential between the meat probe and the oven — as the product is heated, the oven temperature increases, maintaining the differential.

Program Number Display: Prog. / Down / Up / Enter

- PROG.** — Accesses memory to allow programming. Initially displays Program 1 (range: 1 – 99).
- DOWN** — Decreases the Program Number.
- UP** — Increases the Program Number.
- ENTER** — Saves the entered cooking program (up to 5 Phases) under the Program Number. Programs that are properly saved will not be lost during a power outage or disconnection.

BAKING (Convection Baking – HOT AIR)

Convection Baking involves baking, browning, roasting, etc. without adding steam or moisture to the process. The hot air is fan-circulated to maintain even temperatures throughout the oven.

Automatic Convection Baking can be set up using either the elapsed Cooking Time or the internal Probe Temperature to set off the buzzer.

Three combinations of oven settings can be set . . .

- Oven Temperature and Cooking Time.
- Oven Temperature and Probe Temperature.
- Temperature Differential and Probe Temperature.



Turn the oven ON.



Select Convection (HOT AIR) Mode.

Preheat the oven before loading product. Press and set the Oven Temp (35 – 518°F). Use the Up or Down arrows to increase or decrease.

Leave the time setting blank [-h -- min]. Press and wait for the oven temperature to reach the temperature setting.

• Oven Temp and Cook Time

Press and set the Oven Temp. Use the Up or Down arrows to increase or decrease.

Press and set the Cooking Time. Use the Up or Down arrows to increase or decrease.

Load the oven and close the door.

Press to begin.

When complete, press to silence the buzzer.

• Oven Temp and Probe Temp

Press and set the Oven Temp. Use the Up or Down arrows to increase or decrease.

Press and set the Probe Temp. Use the Up or Down arrows to increase or decrease.

Load the oven. Insert the probe near the center of the product. Close the door.

Press to begin.

When complete, press to silence the buzzer.

• Temp Diff and Probe Temp

Press and set the Temperature Differential (110°F recommended for Hot Air mode). Use the Up or Down arrows to increase or decrease.

Press and set the Probe Temp. Use the Up or Down arrows to increase or decrease.

Load the oven. Insert the probe near the center of the product. Close the door.

Press to begin.

When complete, press to silence the buzzer.

NOTES:

The minimum temperature for the probe to function is 35°F — if product is below 35°, set the probe temperature before inserting the probe in the product. If the product is below 35°F, the initial cooking phase must not be terminated by probe temperature. During Operator training to demonstrate use of the probe, place the probe in a container of water to simulate cooking of actual product.

If you select probe temperature or temperature differential and want to switch back to conventional operation, press .

CONVECTION BAKING APPLICATIONS – HOT AIR MODE

All Applications are suggested only — prove your own recipes and temperature / time settings.

Product	Preparation	Preheat Temp (°F)	Oven Temp (°F)	Time (minutes)
FISH				
Cod or Mullet, fresh	Season, Oil	390	350	10 - 12
Sea-frozen fish fillet	Thoroughly oil plate bottom and upper side of fish fillet. After baking, let stand for 2 minutes to avoid sticking and make portioning easier.	480	350	10 - 12
Sole, fresh	Season, Oil	425	350	10 - 12
Trout, fresh	Season, Oil	425	350	10 - 12
Trout, frozen	Season, Oil	425	350	15 - 22
Trout, breaded, fresh	Dip in flour, egg, breadcrumb mixture Grease pan thoroughly	480	435	15 - 20
PORK				
Pork Chop, fresh, sauteed	Season, Oil lightly	480	350	10 - 12
Pork Chop, frozen, sauteed	Oil lightly; Season after roasting	480	425	15
Pork Cutlet, fresh 4 - 5 oz	Dip in egg, breadcrumb batter, thoroughly oil the breaded surface of the cutlets, avoid leaving dry spots, lightly oil plate bottom.	480	425	10 - 12
Pork Cutlet, fresh, breaded	Oil both sides	425	350	10 - 12
Pork Loin Cutlet, fresh 4 - 5 oz	Do not season	480	425	6 - 8
Ham Steak, fresh	Season, Oil lightly	480	350	6 - 10
Pork Sausage, fresh	Oil lightly	480	425	8 - 10
Pork Steak, fresh	Season, Oil lightly	500	480	7
Pork Steak, frozen	Oil, Season after roasting process	500	425	10 - 12

Product	Preheat Temp (°F)	Oven Temp (°F)	Time (minutes)
PASTRY			
Puff Pastry	340	340	18 - 20
Danish Pastry	350	350	18 - 20
Flaky Pastry	340 - 350	340 - 350	16 - 18
Cake	350	350	8
Fruit Cake	320	320	55 - 65
Yeast Rolls with milk	390	390	10 - 12
Almond Pastry	350	350	10 - 12
Nut Pastry	350	350	10 - 12
Chocolate Pastry	350	350	10 - 12
Biscuit Pastry	350	350	10 - 12

STEAMING (Steam Mode only)

Steam cooking is used for stewing, poaching, and gentle cooking of products cooked in water. Steam flows without pressure into the oven. The fan circulates the steam to all parts of the oven.

Automatic Steaming can be set up using either the elapsed Cooking Time or the internal Probe Temperature to set off the buzzer.

Three combinations of oven settings can be set . . .

- Oven Temperature and Cooking Time.
- Oven Temperature and Probe Temperature.
- Temperature Differential and Probe Temperature.



Turn the oven ON.



Select Steam Mode.

If starting from cold, preheat the steam generator for 6 - 8 minutes before

loading product. Press  and set the Oven Temp (35 – 212°F). Use the Up or Down arrows to increase or decrease. Leave the time setting blank

[- h -- min]. Press  and wait for the oven temperature to reach the temperature setting.

• Oven Temp and Cook Time

Press  and set the Oven Temp. Use the Up or Down arrows to increase or decrease.

Press  and set the Cooking Time. Use the Up or Down arrows to increase or decrease.

Load the oven and close the door.

Press  to begin.

When complete, press  to silence the buzzer.

• Oven Temp and Probe Temp

Press  and set the Oven Temp. Use the Up or Down arrows to increase or decrease.

Press  and set the Probe Temp. Use the Up or Down arrows to increase or decrease.

Load the oven. Insert the probe near the center of the product. Close the door.

Press  to begin.

When complete, press  to silence the buzzer.

• Temp Diff and Probe Temp

Press  and set the Temperature Differential (60°F recommended for Steam mode). Use the Up or Down arrows to increase or decrease.

Press  and set the Probe Temp. Use the Up or Down arrows to increase or decrease.

Load the oven. Insert the probe near the center of the product. Close the door.

Press  to begin.

When complete, press  to silence the buzzer.

NOTES:

The minimum temperature for the probe to function is 35°F — if product is below 35°, set the probe temperature before inserting the probe in the product. If the product is below 35°F, the initial cooking phase must not be terminated by probe temperature.

If you select probe temperature or temperature differential and want to switch back to conventional operation,

press .

STEAMING APPLICATIONS

All Applications are suggested only — prove your own recipes and temperature / time settings.

Product	Preparation	Time (minutes)
VEGETABLES		
Asparagus, fresh	Sprinkle with lemon drops before cooking	12 - 15
Broccoli, fresh	Season after cooking	15 - 18
Brussels Sprouts, fresh or frozen	Season after cooking	15 - 18
Cabbage, white, sliced, fresh		15 - 18
Carrots, small, fresh or frozen	Season after cooking	18 - 20
Carrots, diced, fresh		15 - 18
Cauliflower, fresh or frozen	Season after cooking	15 - 18
Cauliflower, head, fresh	Sprinkle with lemon drops before cooking	18 - 20
Celery, slices or diced	Sprinkle with lemon drops before cooking	18 - 20
Corn, on-the-cob, fresh	Sprinkle with lemon drops before cooking	15 - 18
Eggplant		10
Green Beans, fresh or frozen	Season after cooking	18 - 20
Mushrooms, halved, quartered, or sliced	Sprinkle with lemon drops before cooking	8 - 10
Peas, frozen	Season after cooking	12 - 15
Potatoes	Soak in 10% salt water for 15 minutes before cooking; or, salt dry	30 - 35
Spinach, fresh		2 - 4
SIDE DISHES		
Dumplings, Meat Balls	Steam without added water	15 - 20
Pasta	Before cooking, cover with hot water and add some oil. Mix thoroughly once during the cooking process.	20 - 25
Rice	Add water to 150% of rice depth.	20 - 25
MEAT		
Brisket	Add seasoning and vegetables to the meat	90 - 120
Veal, fricassee	Add seasoning and vegetables to the meat	45 - 50
FISH & CRUSTACEANS		
Cod, Halibut, fresh or frozen	In serving size portions, 12 / pan	10 - 12
Crayfish Tails, frozen	Sprinkle with lemon drops and perhaps cover with fresh dill	12 - 15
Mussels	Add some wine	8 - 10
Salmon, fresh	Season with lemon	8 - 10

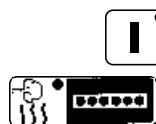
COMBI (Convection Baking with Steaming)

Combi Baking and Steaming is used for baking, roasting, or braising when steam needs to be added to the oven during a convection baking operation. The 'Percent Steam Time' can be varied by repeatedly pressing the Combi key — see % Steam Time in the table below.

Automatic Combi Baking and Steaming can be set up using either the elapsed Cooking Time or the internal Probe Temperature to set off the buzzer.

Three combinations of oven settings can be set . . .

- Oven Temperature and Cooking Time.
- Oven Temperature and Probe Temperature.
- Temperature Differential and Probe Temperature.



Turn the oven ON.



Select Combi Mode and set % Steam Time.

If starting from cold, preheat the steam generator for 10 minutes at 75% Steam Time (six indicator lights in Combi Mode) before loading product.

Press and set the Oven Temp (35 – 518°F). Use the Up or Down arrows to increase or decrease. Leave the time setting blank [-h -- min].

Press and wait 10 minutes.

• Oven Temp and Cook Time

Press and set the Oven Temp.
Use the Up or Down arrows to increase or decrease.

Press and set the Cooking Time. Use the Up or Down arrows to increase or decrease.

Load the oven and close the door.

Press to begin.

When complete, press to silence the buzzer.

NOTES:

The minimum temperature for the probe to function is 35°F — if product is below 35°, set the probe temperature before inserting the probe in the product. If the product is below 35°F, the initial cooking phase must not be terminated by probe temperature.

If you select probe temperature or temperature differential and want to switch back to conventional operation, press .

Indicator Lights		% Steam Time	Seconds ON	Seconds OFF
•	Press once.	20%	16	64
..	Press twice.	30%	24	56
...	Press three times.	40%	32	48
....	Press four times.	50%	40	40
.....	Press five times.	60%	48	32
.....	Press six times.	75%	60	20

• Oven Temp and Probe Temp

Press and set the Oven Temp.
Use the Up or Down arrows to increase or decrease.

Press and set the Probe Temp. Use the Up or Down arrows to increase or decrease.

Load the oven. Insert the probe near the center of the product. Close the door.

Press to begin.

When complete, press to silence the buzzer.

• Temp Diff and Probe Temp

Press and set the Temperature Differential (110°F recommended for Combi mode). Use the Up or Down arrows to increase or decrease.

Press and set the Probe Temp. Use the Up or Down arrows to increase or decrease.

Load the oven. Insert the probe near the center of the product. Close the door.

Press to begin.

When complete, press to silence the buzzer.

COMBI APPLICATIONS

All Applications are suggested only — prove your own recipes and temperature / time settings. Combi applications typically begin with a Steam Mode phase which automatically preheats the steam generator in readiness for a subsequent Combi Mode phase. Some applications contain a HOT AIR or Convection Mode phase. Combi Mode is seldom performed as a single phase cooking operation.

Product	Preparation	Phase 1	Phase 2	Phase 3	Total Time (minutes)
BEEF					
Boned & Rolled Roast Beef	Season, oil, add carrots, leaks, onions, and red wine	Steam 90 minutes	Combi 60 minutes 250 - 280 °F	—	150
Roast Beef	Season and oil lightly	Steam 20 minutes	Combi 15 minutes per pound 280 - 320 °F	Convection 10 minutes 360 - 390 °F	—
Roulades	Season, oil, and add red wine	Steam 30 minutes	Combi 40 minutes 280 - 320 °F	—	70
Braised Beef		Steam 90 minutes	Combi 55 minutes 320 °F	Convection 10 minutes 390 °F	155
Meat Loaf	Oil lightly in pan	Steam 10 minutes	Combi 55 minutes 350 °F	—	65
Stuffed Cabbage	Season, sprinkle with caraway and brown onions	Steam 45 minutes	Combi 20 minutes 350 °F	—	65
Veal, Brisket, stuffed	Season, oil lightly	Steam 15 - 20 minutes	Combi 60 - 70 minutes 290 °F	—	75 - 90
Veal, Roast Loin of	Season, oil lightly, add vegetables as basis of sauce	Steam 20 minutes	Combi 70 - 80 minutes 280 - 320 °F	—	90 - 100
PORK					
Pork Loin, Boneless	Add red wine	Steam 10 minutes	Combi 30 - 40 minutes 280 - 320 °F	—	40 - 50
Pork Pie or Meatloaf	Approximately 4 - 5 lb per aluminum pan	Steam 10 minutes	Combi 60 - 70 minutes 250 - 280 °F	—	70 - 80
Pork Sausage, coarse		Steam 5 - 6 minutes	Combi 5 - 6 minutes 350 °F	—	10 - 12
Pork Sausage, fine		Steam 5 minutes	Combi 5 - 7 minutes 390 °F	—	10 - 12
Stuffed Peppers	Place with the opening on the bottom	Steam 40 - 45 minutes	Combi 15 minutes 340 °F	—	55 - 60
POULTRY					
Chicken	Season	Steam 10 minutes	Combi 90 - 100 minutes 280 - 320 °F	—	100 - 110
Turkey or Goose	Season	Steam 10 minutes	Combi 100 - 110 minutes 280 - 320 °F	—	110 - 120

USING THE TEMPERATURE PROBE

The Temperature Probe is kept in a metal bracket (holder) at the top of the oven when not in use. Remove the probe from its holder; the cable remains permanently connected to the top of the oven. The probe cable is long enough to allow the product to be placed on one of the upper racks in the oven.



Turn the oven ON.



Select one of the cooking modes:

Convection, Steam, or Combi.

In *Combi* Mode, set the % Steam Time (refer to page 16).

Select and set the Probe Temperature. The oven will automatically shut itself off when the Probe Temperature is reached.

Set either the Oven Temperature or the Temperature Differential.

NOTE: Setting the Oven Temperature will maintain a constant temperature in the oven. Setting the Temperature Differential will gradually increase the temperature in the oven as the internal temperature of the product increases. The control maintains the differential or difference between the Oven Temperature and the Probe Temperature. Refer to pages 12, 14, and 16 when setting temperatures for the various cooking modes. Observe minimum Probe Temperature of 35°F.

Load the oven. Insert the probe so its tip is approximately in the middle of the product to be cooked. Close the door.

Press to begin.

When complete, press to silence the buzzer.

TEMPERATURE PROBE APPLICATIONS

All Applications are suggested only — prove your own recipes and temperature / time settings.

	Recommended Final Probe Temperatures °F
Beef	
Rare	140
Medium	160
Well Done	170
Lamb	175 – 185
Pork	
Fresh	170
Smoked	140 – 170
Turkey	
Whole	185
Boneless	170
Veal	170

FIVE COOKING PHASES



Up to five cooking phases can be set for any cooking operation. The end of each phase can be terminated by cooking time or probe temperature. The oven temperature, temperature differential (if probe), and % steam time (Combi) can be set for the selected mode, if applicable. At the end of each phase, the oven control proceeds to the next phase. When the final phase is complete, the buzzer sounds.



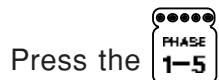
Turn the oven ON.



The left indicator light in the **PHASE 1-5** key is blinking (indicating 1st phase).



Select the cooking mode for the first phase. Set the cooking parameters for the first phase of cooking (refer to pages 12 – 18).



Press the **PHASE 1-5** key and notice the second phase indicator is blinking. Select the cooking mode and set the cooking parameters for the second phase.



If another phase is to be set, press the **PHASE 1-5** key again. Notice the indicator light for that phase is blinking. Select the cooking mode and set the cooking parameters for that phase. Repeat for each phase.



After the cooking parameters for the last phase have been set, press **START STOP** to begin cooking.



When complete, press **START STOP** to silence the buzzer.

PROGRAMMING MEMORY

The Programmable Control allows up to 99 Cooking Programs with up to 5 Phases in each program to be keyed-in and stored in Memory. Each program is accessed by its identifying number. Program numbers range from 1 – 99.

If the numbered Program has not been programmed (or is vacant), the Temperature displays the current temperature, the Time displays – h – min, and no Mode or Phase indicator lights are lit.

If the Program has already been programmed, its values are recalled from memory and displayed. You can view all the programmed information by stepping through the phases using the phase button.

To **CREATE** a new program —

Select the cooking mode: Hot Air, Steam, or Combi.

If Combi, set % Steam Time.

Set the oven settings desired . . .

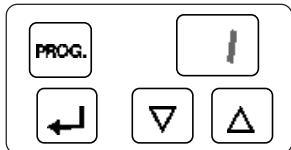
- Oven Temperature and Cooking Time.
- Oven Temperature and Probe Temperature.
- Temperature Differential and Probe Temperature.

End of the 1st Phase. Press  to shift to the next phase.

Repeat the above for as many of the 5 phases as are needed.

Press  twice.

Press the  key. The program number is displayed.



Use Up or Down arrows to increase or decrease until a vacant program number is found. Then press  until the program number stops being displayed and the program is saved in memory.

To **DELETE** an existing program — Find the program number.

Press  and hold it in for about 3 seconds until the program number stops flashing, indicating the program has been deleted.

To **CHANGE** an existing program — Find the program number.

Key in any temperature or time changes for each phase; press  to shift to the next phase. The phase key allows all program information to be displayed. The flashing program number indicates that one or more changes have been made to the program. Press  twice. Then press

 and hold it in for about 3 seconds until the program number stops flashing, indicating the changed program has been saved.

EXAMPLE PROGRAM

This example shows how to program a three-phase process for cooking Roast Beef, 18 pounds per roast, and store it as program number 20.

The second item in the table on page 17 provides most of the information: For Combi time, Phase 2, 15 minutes-per-pound times 18 pounds-per-roast yields 270 minutes. We assumed that 20% Steam Time would be OK. We chose the average temperature when a temperature range was given. In this example, we will not use the temperature probe.

Phase 1	Phase 2	Phase 3
STEAM Mode 212 °F 20 minutes	COMBI Mode - 20% Steam Time 295 °F 4 hours and 30 minutes	CONVECTION (HOT AIR Mode) 375 °F 10 minutes

Turn the oven ON.

Phase 1 Select Steam Mode by pressing . The first light blinks on the phase button to indicate you are programming Phase 1. Press : The Temperature displays 212°F and needs no adjustment. Press and press to increase or to decrease until the Time displays [– h 20 min]. Press to shift to Phase 2: The second indicator light begins to flash.

Phase 2 Select Combi Mode - 20% Steam Time by pressing once. The first indicator light will be lit indicating 20% Steam Time. Press and press to increase or to decrease until the Temperature displays 295°F. Press and press to increase or to decrease until the Time displays [4 h 30 min]. Press to shift to Phase 3: The third indicator light begins to flash.

Phase 3 Select Convection (HOT AIR) Mode by pressing . Press and press to increase or to decrease until the Temperature displays 375°F. Press and press to increase or to decrease until the Time displays [– h 10 min]. Press twice.

Save Press the key and press to increase or to decrease until the Program Number displays . Verify that this program number is vacant, or choose a different program number that is vacant. A vacant program displays the current temperature, blank Time [– h – min], and no Mode or Phase indicator lights are lit. Then press until the program number stops being displayed, indicating the program is saved in memory.

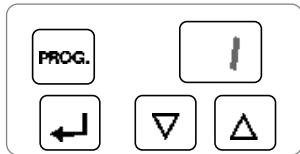
RECALLING A PROGRAM FROM MEMORY

Once a menu item has been programmed, it can be recalled, reviewed and used to cook food.

If the Program has already been programmed, its values are recalled from memory and displayed. You can view all the programmed information by stepping through the phases using the phase button.

To **RECALL** a program from memory —

Turn the oven on.



Press the **PROG.** key. The program number is displayed.

Use Up or Down arrows to increase or decrease until the program number you want is displayed.

Press **PHASE
1-5** to step-through and verify all the programmed information.

Load the oven and insert the temperature probe, if needed.

Close the door.

Press **START
STOP** once to start the cooking process.

The indicator lights show each successive phase of the cooking program as it is being performed.

When the last phase is finished, the buzzer will sound to alert you.

Press **START
STOP** to silence the buzzer. You may unload the oven when ready.

MENU CARD

PROGRAM NUMBER _____					
Menu _____					
	Mode (Hot Air - Combi __% - Steam)	Cooking Temp. (°F)	Time (Hr. Min.)	Probe Temp. (°F)	Temp. Differential (°F)
Phase 1					
Phase 2					
Phase 3					
Phase 4					
Phase 5					

PROGRAM NUMBER _____					
Menu _____					
	Mode (Hot Air - Combi __% - Steam)	Cooking Temp. (°F)	Time (Hr. Min.)	Probe Temp. (°F)	Temp. Differential (°F)
Phase 1					
Phase 2					
Phase 3					
Phase 4					
Phase 5					

PROGRAM NUMBER 20			18 pounds each - refrigerate at 40 °F - set at room temperature 1 hour before roasting		
Menu ROAST BEEF					
	Mode (Hot Air - Combi __% - Steam)	Cooking Temp. (°F)	Time (Hr. Min.)	Probe Temp. (°F)	Temp. Differential (°F)
Phase 1	Steam	212 °F	20 Min.		
Phase 2	Combi - 20%	295 °F	4 Hr. 30 Min.		
Phase 3	Hot Air	375 °F	10 Min.		
Phase 4					
Phase 5					

COOK AND HOLD

Cook and Hold is a two-stage cooking process. The first stage is programmed similar to any other Convection, Steam, or Combi operation by selecting the mode and setting a cooking temperature and a cooking time (or probe temperature).

During the second phase of the cooking process, oven heat is allowed to dissipate slowly while the internal temperature of the product is still increasing. The second phase Temperature is typically set at 140°F, while the Timer is set on continuous, [-]h [--]min.

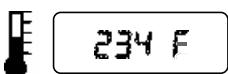


Turn the oven ON.



Select one of the cooking modes:
Convection, Steam, or Combi.

In *Combi* Mode, set the % Steam Time (refer to page 16).

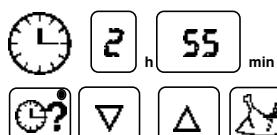


Press and set the Oven Temperature (first stage).



Use Up or Down arrows to increase or decrease.

If using the probe, press ; then set the Probe Temperature.
Use Up or Down arrows to increase or decrease.

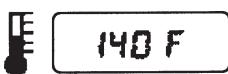


If not using the probe, press and set the Cooking Time (first phase).

Use Up or Down arrows to increase or decrease.



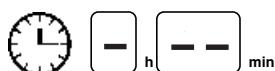
Press the Phase key. The second Phase Light should be lit.



Press and set the Temperature for the second phase.



Use Up or Down arrows to increase or decrease.



Press and set the Timer on continuous.



Use Down arrow to decrease.

Load the oven. If using the probe temperature, insert the probe near the center of the product. Close the door.



Press Start/Stop to begin.

COOK AND HOLD APPLICATIONS

All Applications are suggested only — prove your own recipes and temperature / time settings.

This two-stage process cooks roast beef or other products slowly and efficiently. During the first phase, the oven cooks at the Oven Temperature for a set amount of time or until a Probe Temperature is reached. When the first phase is complete, the roast continues to cook as the temperature declines to the Hold Temperature, (140°F for beef). The temperature is maintained at the "ready-to-serve" or Hold Temperature indefinitely. After unloading, the oven can be used for its next cooking task or shut off manually.

Cook And Hold — Rolled Beef Roasts — Refrigerated, Not Frozen						
Oven Temp °F	200 °F		250 °F		300 °F	
Doneness	Rare	Med	Rare	Med	Rare	Med
Final Internal Temp °F	140 °F	160 °F	140 °F	160 °F	140 °F	160 °F
Weight (pounds)	Phase 1 Cooking Time (minutes)					
8	165	225	105	135	90	105
9	180	240	120	150	90	120
10	195	270	135	165	105	120
11	210	285	135	180	105	135
12	225	315	150	195	105	150
13	240	330	165	210	120	150
14	255	360	165	225	120	165
15	270	375	180	225	135	165
16	285	390	180	240	135	180
17	300	405	195	255	150	180
18	300	420	210	270	150	195
19	315	450	210	270	165	210
20	330	465	225	285	165	210
21	345	480	225	300	180	225
22	360	495	240	300	180	225
23	375	510	240	315	180	240
24	375	540	255	330	195	240
25	390	555	270	345	195	255
26	405	570	270	345	210	270
27	420	585	270	360	210	270
28	435	600	285	375	210	270
29	450	615	300	390	225	285
30	450	630	300	390	225	285
Allow additional time (minutes) for the oven temperature to decline to the Hold Temperature (140 °F)						
	60 minutes	90 minutes	120 minutes			

Cook And Hold — Standing Rib Roast — Refrigerated, Not Frozen						
Oven Temp °F	200 °F		250 °F		300 °F	
Doneness	Rare	Med	Rare	Med	Rare	Med
Final Internal Temp °F	140 °F	160 °F	140 °F	160 °F	140 °F	160 °F
Weight (pounds)	Phase 1 Cooking Time (minutes)					
8	135	195	90	120	75	90
9	150	210	90	120	75	90
10	150	210	105	135	75	90
11	165	225	105	135	90	105
12	165	240	105	150	90	105
13	180	240	120	150	90	105
14	180	255	120	150	90	105
15	180	255	120	165	90	120
16	195	270	120	165	105	120
17	195	285	135	165	105	120
18	210	285	135	180	105	120
19	210	300	135	180	105	135
20	210	300	150	180	105	135
21	225	300	150	195	105	135
22	225	315	150	195	120	150
23	240	330	150	195	120	150
24	240	330	165	210	120	150
25	240	330	165	210	120	150
26	240	345	165	210	120	150
27	255	345	165	210	120	165
28	255	360	180	225	120	165
29	270	360	180	225	135	165
30	270	360	180	225	135	165
Allow additional time (minutes) for the oven temperature to decline to the Hold Temperature (140 °F)						
	60 minutes	90 minutes	120 minutes			

Cook And Hold — Other Foods						
	Quantity	Size	Oven Temp °F	Time (minutes)		Final Internal Temp °F
				Phase 1 Cook	Hold Additional	
Leg of Lamb	1 or more of same size	5 - 15 lb each	300	20 min / lb	5 min / lb	180
Smoked Ham, fully cooked	1 or more of same size	15 lb each	300	120 min	150 min	155
Chicken	1 - 12 of same size	2 - 3 lb each	300	30 min	10 min	180
	18 - 24 of same size	2 - 3 lb each		40 min	15 min	
Duckling	1 - 5 of same size	3.5 - 4 lb each	325	55 min	15 min	200
	6 - 10 of same size	3.5 - 4 lb each		70 min	25 min	
Turkey	1 or more of same size	12 lb each	250	125 min	55 min	190
		14 lb each		150 min		
		16 lb each		175 min		
		18 lb each		200 min		
		20 lb each		220 min		
		22 lb each		240 min		
White Potatoes, baked, in jackets	up to 50 pounds	120 count	400	30 min	15 min	200
	60 - 75 pounds			40 min		
	80 - 100 pounds			50 min		
	up to 50 pounds	80 count	400	40 min	15 min	200
	60 - 75 pounds			50 min		
	80 - 100 pounds			60 min		

CLEANING

Daily Cleaning

Preheat the oven to 130°F and spray a mild detergent solution that does not contain chlorine on the inside surfaces of the oven. Allow the detergent solution to react for 15 minutes.

Operate the oven on Steam mode for 15 minutes. Allow the oven to cool; wipe the oven interior with a sponge and warm water. Dry the oven interior with a clean soft cloth.

DO NOT use abrasive products.

Clean the exterior with a cloth or sponge and non-aggressive, non-abrasive products.

Complete Cleaning

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH INDICATING THAT YOU ARE WORKING ON THE OVEN.

Remove the rack (Fig. 6). Remove the grease filter (Fig. 6) if present at the rear of the oven chamber, by lifting up and out. Remove the fan baffle (Fig. 7) by lifting up and out. Remove the insert retainer (Fig. 6) normally located under the grease filter and fan baffle. Wash the removed parts in a sink with warm soapy water, rinse with clear water, and dry with a clean dry cloth.

Clean all areas of the oven and all parts. Reinstall the parts in their original positions.

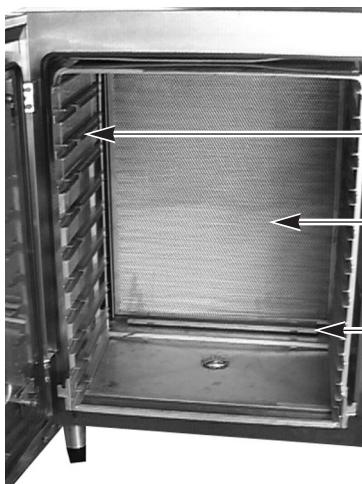


Fig. 6

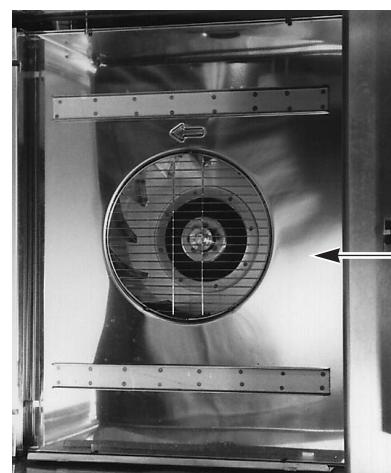


Fig. 7

If using the hose spray accessory to clean the oven interior, DISCONNECT ELECTRICAL POWER and avoid spraying near the controls.

DO NOT use steel wool or abrasive scouring pads as they will scratch and ruin the oven surfaces.

Sanitize the temperature probe. Return it to its home position in the bracket on the ceiling of the oven.

Complete Cleaning (continued)

The interior glass door (Fig. 8) can be opened to allow cleaning of both sides of the glass doors. With the oven door open, unscrew the left upper- and lower-thumbscrews on the inner glass door. When the screws are sufficiently loose, the inner glass door will swing open on the right side hinges. All four surfaces of the glass doors can be cleaned using a cloth and glass cleaner or warm soapy water and a clear water rinse. The area between, behind, and around the surfaces of the upper and lower hinges can be cleaned by holding both ends of a moist soapy cleaning cloth folded in a three inch wide strip and swabbing up and down; rinse and dry with clean wet or dry cloth in the same manner. When glass is clean, rotate the interior glass door against the door and re-tighten the left upper- and lower-thumbscrews by turning clockwise.

Wipe surfaces which touch the door gasket with a cloth or sponge and warm soapy water, rinse with warm clear water, and wipe with a dry cloth. **CAUTION: Do not allow the door gasket to come in contact with food oils, petroleum solvents, lubricants, or caustic cleaners.**

Remove the drip tray (Fig. 8) by removing the two screws that attach it to the bottom of the inside of the door frame. Save the screws. Use a downward rotating movement to remove the drip tray; make sure the drain tube on the right clears the door. Wash and rinse the drip tray in a sink with warm soapy water and a clear water rinse, and dry with a clean dry cloth. To reinstall drip tray: Insert drain tube into opening on right side; align screw holes using an upward rotating motion; and re-install and tighten screws.

Keep the cooking compartment drain (Fig. 8) working freely. After cooking grease producing foods, operate the oven with the compartment empty for 30 minutes in Steam mode at the end of the day, or pour $\frac{1}{2}$ gallon of warm soapy water down the drain, followed by $\frac{1}{2}$ gallon of warm clear water. The drain grating may be removed for cleaning on most models; replace it in its original position when done.

Leave the door latched and slightly open when the oven is not in use to allow the inside to dry out.

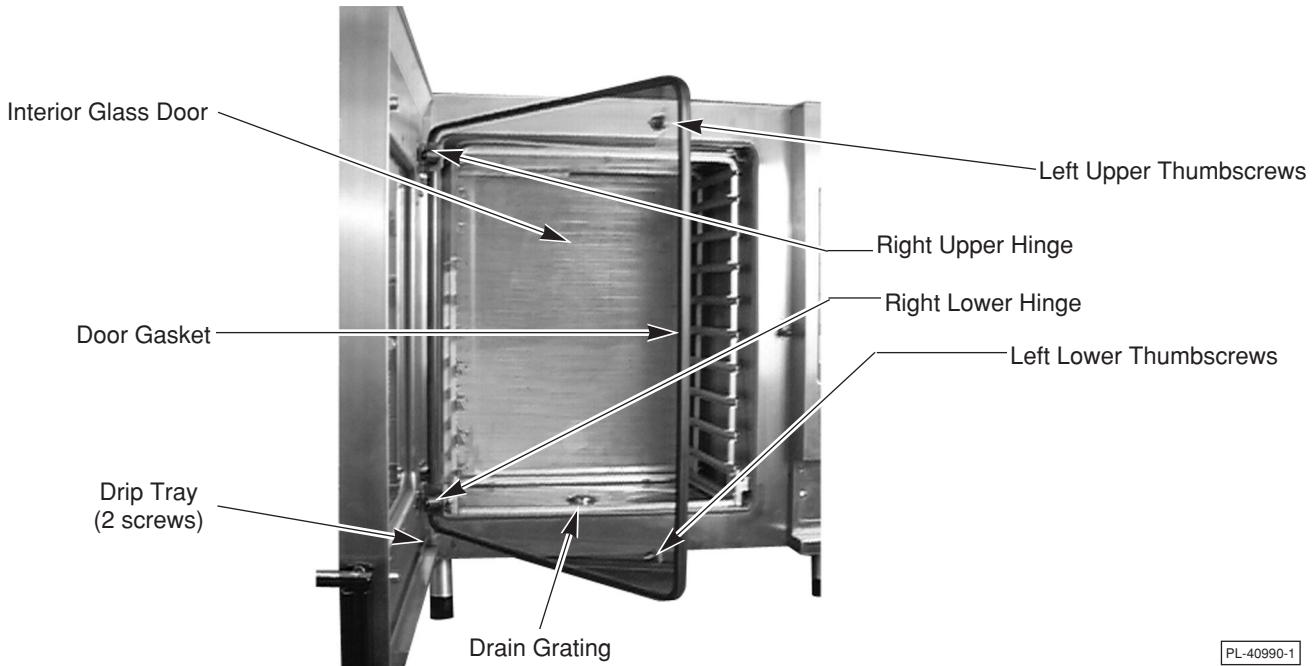


Fig. 8

MAINTENANCE

WARNING: THE OVEN AND ITS PARTS ARE HOT. USE CARE WHEN OPERATING, CLEANING OR SERVICING THE OVEN. THE COOKING COMPARTMENT CONTAINS LIVE STEAM. STAY CLEAR WHEN OPENING DOOR.

REMOVAL OF LIME SCALE DEPOSITS

About once a week, perform the following procedure to remove lime buildup in the steam generator:

Drain the steam generator by pressing OFF. The steam generator drain pump will operate for about one minute.

Using the funnel and flexible tube shipped with the oven, carefully pour white vinegar into the steam generator tank through the inlet-port inside the oven. The inlet port is located on the back wall, top left corner (some models have two ports). Approximately 1.6 U.S. gallons of vinegar is required for the 10 level oven; 2.6 U.S. gallons for the 20 level half-depth oven; and 5.3 U.S. gallons for the 20 level full depth oven. Allow the vinegar to set overnite. In the morning, press ON so that the steam generator can be flushed. Then press OFF and allow the drain pump to empty the tank.

Carefully flush the steam generator tank and the inside of the oven with fresh water — twice.

Press ON. Operate the oven in Steaming mode for approximately 10 minutes.

Drain the steam generator: Press OFF and allow the steam generator drain pump to operate for about one minute.

The oven is again ready for use.

FLUES

Twice a year check the flues, when cool, to be sure they are free of obstructions.

MOTORS

Motors are permanently lubricated and require no further lubrication.

TROUBLESHOOTING

Oven won't operate. Buzzer sounds after 4 minutes. Check water supply valve to oven and make sure it is open.

Oven does not ignite. See Start-up Procedure on page 7.

Oven won't start. Buzzer sounds. Probe below 35°F. Before starting, thaw product above 35°F in a phase not terminated by probe temperature. The oven will not operate in a probe temperature terminated phase if the meat probe is below 35°F.

SERVICE

Contact your local Vulcan-authorized service office for any repairs or adjustments needed on this equipment.